UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,224	07/10/2003	Jonas Lundberg	4010-30	2247

23117　　　　7590　　　　07/16/2010	EXAMINER
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203	VYAS, ABHISHEK

ART UNIT	PAPER NUMBER
3691	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/616,224	LUNDBERG ET AL.
	Examiner	Art Unit	
	ABHISHEK VYAS	3691	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _05 March 2010_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-13_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-13_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _12/10/2009_.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. This action is in reply to pre-appeal request decision on 04/20/2010.

2. Claims 1, 3, 4, 6, 8, 9, have been amended.

3. Claims 12 and 13 have been newly added.

4. Claims 1-13 are currently pending and have been examined.

5. Claims 1-13 are rejected.

6. This is a NON-FINAL action. Applicant's arguments in the pre-appeal request were persuasive. Therefore a new non-final action is provided.

Information Disclosure Statement

7. The Information Disclosure Statement filed on 12/10/2009 has been considered. An initialed copy of the Form 1449 is enclosed herewith.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-13 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 1 recites in the preamble "A computer implemented trading apparatus:" the body of the claim does not contain any limitations indicating the structure of the device. A system or an apparatus claim should always claim the structure or the hardware that performs the function.

Applicant's claimed limitations consist of modules (software according to the specification) that do not describe the structure of the device. Although the claim recites a matching processor; the specification recites: "the system comprises a number of remote terminals all connected to a central computer server comprising a *matching unit* including a computer processor" and further there is no clear mention of *"a data processing module"* in the specification. Therefore it is unclear whether the claims are directed towards software or structural components. The data processing module is interpreted to be the (CLICK TM) software. However, there is no clear indication whether the processor is running the module to carry out the recited functions. Appropriate correction is required.

11. Claim 1 recites: "*a data processing module for creating a new derived order in a bond orderbook for a bond derived from one or more orders placed in a stripped bond orderbook for stripped bonds associated with the bond in order to increase trade matching opportunities in the bond orderbook.*". It is unclear how a bond is derived from the stripped bonds and how the stripped bonds are associated with the bonds. The specification does not provide a clear definition of the association (relationship). Further the matches are based on existing prices. The process 407 collects sell prices for all stripped bonds required to form the bond the buyer has placed an order for. If there exists prices for all required stripped bonds. If the prices exist the matching process tries to match that combination of stripped bonds against the received bond order. Further in step 409 if there exist prices for all required stripped bonds but one the system generates a derived order in the stripped bond market for the missing stripped bond at a price such that the combination of the stripped bonds including the derived order matches the order (page 6, paragraphs 1-3; of the originally filed specification). Therefore it is unclear how the new order is derived for the bond (instead of a bond price). The recitations in claims 2 and 6 of: "matching said bond order against a number of stripped bonds that aggregated forms a bond corresponding to said bond" is therefore similarly vague and indefinite. Further for claim 6 "said bond" lacks antecedent basis

12. The dependent claims are rejected on their dependency to the rejected independent claims.

Claim Rejections - 35 USC § 101

13. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

14. Claims 2-6 and 12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

15. Claims 2 and 6 recite a process comprising the steps of receiving an order, matching and forming a order or combination order. Based on Supreme Court precedent, a proper process must be tied to another statutory class or transform underlying subject matter to a different state or thing (*Diamond v. Diehr,* 450 U.S. 175, 184 (1981); *Parker* v. *Flook,* 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson,* 409 U.S. *63,* 70 (1972); *Cochrane* v. *Deener,* 94 U.S. 780,787-88 (1876)). Since neither of these requirements is met by the claim, the method is not considered a patent eligible process under 35 U.S.C. 101. To qualify as a statutory process, the claim should positively recite the other statutory class to which it is tied in a non-trivial manner, for example by identifying the apparatus that accomplishes the method steps or positively reciting the subject matter that is being transformed, for example by identifying the material that is being changed to a different state. Claims 2-6, 12 at issue does not use an apparatus and do not describe a process of manufacture or process for alteration of composition of matter.

16. The dependent claims are rejected on their dependency to the rejected independent claims.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
> described as set forth in section 102 of this title, if the differences between the subject
> matter sought to be patented and the prior art are such that the subject matter as a whole
> would have been obvious at the time the invention was made to a person having ordinary
> skill in the art to which said subject matter pertains. Patentability shall not be negatived by
> the manner in which the invention was made.

18. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Narayan et al. United

States Patent Application Publication No.: 2002/0026399 in view of Gustafson United States

Patent Application Publication No.: 2003/0225684 A1.

19. **As per Claim 1**, Narayan et al disclose the following limitations:

- a matching processor having an associated memory forming one or more orderbooks
  wherein both fixed-income instruments paying a coupon referred to as bonds, and fixed-
  income instruments not paying a coupon, referred to as stripped bonds, are traded (see
  at least Narayan paragraphs 0012-0014, 0016, 0026, 0049-52).

Narayan does not disclose the following limitation. Gustafson, however, teaches the limitation as

follows:

- a data processing module for creating a new derived order in a bond orderbook for a
  bond derived from one or more orders placed in a stripped bond orderbook for stripped
  bonds associated with the bond in the order to increase trade matching opportunities in
  the bond orderbook (see at least Gustafson paragraphs 7, 16, 26-27).

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand

the system of Narayan to specifically include deriving bond prices from information related to

stripped bonds. One would be motivated to do so to accurately match orders and provide the

customer the required hedge or return on investment (see at least Gustafson paragraphs 16 and

27). It is further pointed out that Narayan (in paragraph 0026) clearly discloses an order

interpretation module that receives orders, matches orders and executes a trade upon detecting a

match. These are the obvious equivalents of a functional orderbook. In response to the applicant's contention that neither reference discloses or suggests matching orders. The examiner respectfully disagrees. Narayan clearly discloses an electronic database that receives stores, matches and processes orders from users (see Narayan paragraph 0022, 0026, 0029). Under the broadest reasonable interpretation, the converter unit of paragraph 26 (Gustafson) can obviously carry out the same function of deriving bond orders instead of energy instruments/commodities or securities. Under the KSR rationales the substitution of the object being ordered, matched and process (such as substituting energy units with bond order prices) would lead to the same operational result of matching the order and deriving an order for a combination trade of bonds instead of energy units. If the units don't fit, the order processing server generates derived orders of the energy contracts. It would have been obvious to modify this system and method to do the same for bonds and stripped bonds. (Gustafson 27 and 43).

20. **Claims 2, 5, 7, 10, 12 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Narayan et al. United States Patent Application Publication No.: 2002/0026399 in view of Gustafson United States Patent Application Publication No.: 2003/0225684 A1.

21. **As per claims 2 and 7**, Narayan discloses the following limitations:

- *receiving from a trader a bond order to buy or sell a bond* (see at least Narayan paragraphs 0016, 0026).

Narayan does not specifically disclose the following limitation. Gustafson however teaches:
- *matching said bond order against a number of stripped bonds that aggregated forms a bond corresponding to said bond order* (Gustafson paragraphs 7, 16 and 26-27).
- *As per claims 5 and 10: if a price exists for all required stripped bonds but one, generating a derived order for the missing stripped bond* (see Gustafson paragraphs 7, 13, 16 and 57).

- *As per further limitations of claims 12 and 13:* wherein the matching includes matching the bond order with the aggregated number of stripped bonds which form the bond corresponding to the bond order (see Gustafson paragraphs 22, 43 and 59).

- storing in a bond orderbook the bond order received from a trader to buy or sell a bond, and aggregating the number of stripped bonds in a stripped bond orderbook in response to the bond order (see Gustafson 22).

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the system of Narayan to specifically incorporate various units of securities that match the characteristics of the bond order and the available securities within the system. One would be motivated to do so to reduce difficulty to generate derived orders when trading combination contracts involving different energy commodities (Gustafson paragraph 10-11). The concept is analogous to the trading between the bond market and a stripped bond market. The concept of derived combination orders operates analogously whether it is for bonds for energy contracts. Narayan clearly discloses matching received orders in paragraph 0026. Narayan clearly discloses an electronic database that receives stores, matches and processes orders from users (see Narayan paragraph 0022, 0026, 0029). Under the KSR rationales the substitution of the object being ordered, matched and process (such as substituting energy units with bond order prices) would lead to the same operational result of matching the order and deriving an order for a combination trade of bonds instead of energy units/commodities. Gustafson clearly teaches the concept of combination orders and derived order (baits) as specifically set forth in the specification of the instant application. If the units don't fit, the order processing server generates derived orders of the energy contracts. It would have been obvious to modify this system and method to do the same for bonds and stripped bonds. (Gustafson 27 and 43).

22. **As per claims 3 and 8**, Narayan discloses the following limitations:

- *Matching the bond order against bids or offers for conventional bonds* (see at least Narayan paragraphs 0011, 0013, 0016, 0026, 0029).

23. **As per claims 4 and 9**, Narayan discloses the following limitations:

   - *Before the bond order is matched against the number of aggregated stripped bonds checking if there is a current price for all stripped bonds* required for the match (see Narayan 52 and 62-63) (price comparison is interpreted as check for prices)

24. **Claims 6 and 11 are** rejected under 35 U.S.C. 103(a) as being unpatentable over Narayan et al. United States Patent Application Publication No.: 2002/0026399 in view of Gustafson United States Patent Application Publication No.: 2003/0225684 A1.

25. **As per claim 6**, Narayan teaches the following limitations:

   - *receiving a stripped bond order to buy or sell a stripped bond* (see at least Narayan paragraphs 0016, 0026).
   - *matching said stripped bond order against existing bids or offers* (see at least Narayan paragraphs 0026, 0030, 0052).

Narayan does not teach the following limitations. Gustafson however discloses the limitations as follows:

   - generating a derived bond order based on a number of stripped bond orders (see at least Gustafson paragraphs 6-7, 26-27, 57)
   - forming a combination trade between all stripped bonds required for a match against said bond order, including said stripped bond order, and said bond (see at least Gustafson paragraphs 7, 11, 16, 22, 26, 27, 43 and 57).
   - As per further limitations of claim 11: match said stripped bond order against existing bids or offers such that when said matching occurs for a pending bid or offer resulting from a derived order generated in response to trying to match a bond order for a bond against a number of stripped bonds and form as a combination trade between all stripped bonds required for a match against said bond order, including said stripped bond order, and said bond (Gustafson paragraphs 7, 11, 16, 22, 26, 27, 43 and 57).

It would have been obvious to one of ordinary skill in the art at the time of the invention to expand the system of Narayan to combine trading of multiple stripped bonds matching a bond order placed by a customer. One would be motivated to do so to optimize the trading process and to encourage quick and convenient transactions resulting in profitable returns on the investments. It would make investing in such instruments more cost effective. It would have also been obvious to one of ordinary skill in the art at the time of the invention to have generated (interpreted as created) a derived bond order based on number of stripped bond orders to modify the bond order matching module of Narayan. Under the KSR rationales the substitution of the object being ordered, matched and process (such as substituting energy units with bond order prices) would lead to the same operational result of matching the order and deriving an order for a combination trade of bonds instead of energy units/commodities. If the units don't fit, the order processing server generates derived orders of the energy contracts. It would have been obvious to modify this system and method to do the same for bonds and stripped bonds. (Gustafson 27 and 43).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abhishek Vyas whose telephone number is 571-270-1836. The examiner can normally be reached on 7:30am-5:00pm EST Mon-Thur, ALT Friday OFF.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexander Kalinowski can be reached on 571-272-6771. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. V./

Examiner, Art Unit 3691

/Alexander Kalinowski/

Supervisory Patent Examiner, Art Unit 3691